

REMARKS

Independent claims 36, 51-52, 72-73, and 80 have been amended to overcome the prior art rejections as well as the indefiniteness rejection. In particular, the following amendments are made:

Claim 36 is amended to overcome the 35 U.S.C. § 112, second paragraph, rejection by including the phrase “the local molten resin temperature being” before the second temperature range. Thus, it should be clear that the local resin (or polymer or material) is heated at between 245 and 372°C, that temperature also limited to being from 30 to 170°C above the bulk melt temperature, whatever that may be.

Further, claim 52 is amended by adding the feature “extrusion die having a plurality of extrusion orifices having a pattern” to overcome the Section 112 rejection. This language derives from paragraph [0104], in light of, for example, Figure 1 and Figure 9 (around the capillary openings, see paragraph [0085]).

Claim 36 is further limited by the features of claims 40 and 47 in order to overcome the 35 U.S.C. § 102(b) rejections over Hiromi, Courval, Ready, and the 35 U.S.C. § 103(a) rejection over Leffew. Either or both of claims 40 and 47 were not rejected over these references. No new matter is added and the Applicants request that these rejections, and the rejections of the dependent claims therefrom, be withdrawn.

Claim 51 is further limited by the features of claims 40 and 62 in order to overcome the 35 U.S.C. § 102(b) rejections over Hiromi, Courval, Ready, and the 35 U.S.C. § 103(a) rejection over Leffew. Either or both of claims 40 and 62 were not rejected over these references. No new matter is added and the Applicants request that these rejections, and the rejections of the dependent claims therefrom, be withdrawn.

Claim 72 and 73 is further limited by the features of claims 75 and 79 in order to

overcome the 35 U.S.C. § 102(b) rejections over Hiromi, Courval, Ready, and the 35 U.S.C. § 103(a) rejection over Leffew. Either or both of claims 75 and 79 were not rejected over these references. No new matter is added and the Applicants request that these rejections, and the rejections of the dependent claims therefrom, be withdrawn.

Finally, Claim 80 is further limited by the features of claims 82 and 86 in order to overcome the 35 U.S.C. § 102(b) rejections over Hiromi, Courval, Ready, and the 35 U.S.C. § 103(a) rejections over Leffew and Leffew in view of Dudley. Either or both of claims 82 and 86 were not rejected over these references. No new matter is added and the Applicants request that these rejections, and the rejections of the dependent claims therefrom, be withdrawn.

Claims 40, 47, 62, 75, 79, 82, and 86 are herein cancelled.

Claims 47-50, 62-64, 78-79, and 85-86 were rejected under 35 U.S.C. § 103(a) over Leffew in view of Dudley. As claims 72 and 80 should now be allowable due to the claim amendments above, the Applicants request that these rejections over the dependent claims therefrom be withdrawn.

The Examiner has stated that the temperature ranges of claims 36, 51, and 72 should not be considered. The Applicants disagree. The MPEP, citing recent Federal Circuit law, states that “A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.”¹ A functional limitation can be used to describe the capability of a mechanical element.² The temperature ranges are performing such a function in the claims, that is, stating the capability or functional requirement of the apparatus.

The limitation to the 30 to 170°C range should now be considered. The rejections over

¹ See MPEP 2173.05(g).

² See MPEP 2173.05(g), citing *Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 1111, 1117-20 (Fed. Cir. 2004).

Leffew should be withdrawn, as Leffew does not disclose the apparatus element of a heater capable of and positioned so as to heat only locally, a portion of the melted polymer to the newly recited range from 30°-170°C *above* the T_{melt} or cup temperature of the polymer mass, while the balance of the mass remains at T_{melt} .

Leffew is concerned with reheating solidified low molecular weight polymer prior to extrusion from a barrel. Leffew is directed to a die plate assembly wherein multiple extrusion barrels are equipped with thermocouples to sense temperature drop *below* the liquid state, a controller to transmit the determination of solids temperature range from the thermocouples, and a heater that reheats the solid polymer in the indicated barrel back to the liquid state. See Leffew at column 3, lines 8-16 ("thereby melting the polymer").

Accordingly, Leffew does not provide a heating means for raising a local area of the polymer flow to a temperature "30-170°C" above T_{melt} , as required by the present claims. There is no indication in Leffew whether the system (including the heaters) could heat the polymer beyond T_{melt} or whether local heating in each barrel can be accomplished. Reconsideration and withdrawal of the rejection in view of the lack of a suggestion of a heater to locally heat the polymer flow above T_{melt} is respectfully requested.

Having demonstrated that the cited references fail to disclose or suggest the invention as claimed, and all other formal issues having now been fully addressed, this application is believed to be in condition for allowance. If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1712 (Docket #: 2003B103/2).

Respectfully submitted,

Date: April 23, 2008

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